

**Project Name:** BAGO-MARAGLE FOREST SOIL SURVEY  
**Project Code:** BGM\_FSS **Site ID:** 0074 **Observation ID:** 1  
**Agency Name:** CSIRO Division of Soils (ACT)

#### Site Information

|   |                                  |
|---|----------------------------------|
| <b>Desc. By:</b> P. Ryan                    | <b>Locality:</b>                 |
| <b>Date Desc.:</b> 13/12/95                 | <b>Elevation:</b> 1038 metres    |
| <b>Map Ref.:</b> Sheet No. : 8526 DGPS      | <b>Rainfall:</b> No Data         |
| <b>Northing/Long.:</b> 6023816 AMG zone: 55 | <b>Runoff:</b> No Data           |
| <b>Easting/Lat.:</b> 615206 Datum: AGD66    | <b>Drainage:</b> Rapidly drained |

#### Geology

|                               |   |
|-------------------------------|---|
| <b>ExposureType:</b> Soil pit | <b>Conf. Sub. is Parent. Mat.:</b> Probable |
| <b>Geol. Ref.:</b> Dga        | <b>Substrate Material:</b> Adamellite       |

#### Land Form

|                                 |                                |
|---------------------------------|--------------------------------|
| <b>Rel/Slope Class:</b> No Data | <b>Pattern Type:</b> No Data   |
| <b>Morph. Type:</b> Mid-slope   | <b>Relief:</b> No Data         |
| <b>Elem. Type:</b> Hillslope    | <b>Slope Category:</b> No Data |
| <b>Slope:</b> 38 %              | <b>Aspect:</b> 180 degrees     |

**Surface Soil Condition (dry):** Firm

**Erosion:** Partial, Minor (sheet)

#### Soil Classification

|  |   |
|--|---|
| <b>Australian Soil Classification:</b>   | <b>Mapping Unit:</b> N/A                      |
| Acidic Eutrophic Brown Dermosol Medium Moderately gravelly Clay-loamy Clayey Very deep | <b>Principal Profile Form:</b> Gn4.34         |
| <b>ASC Confidence:</b>   | <b>Great Soil Group:</b> Yellow podzolic soil |
| All necessary analytical data are available.   |   |

**Site Disturbance:** No effective disturbance. Natural

#### Vegetation:

**Surface Coarse Fragments:** 20-50%, coarse gravelly, 20-60mm, rounded tabular, Adamellite; 20-50%, cobbly, 60-200mm, subrounded tabular, Adamellite; 20-50%, stony, 200-600mm, subrounded tabular, Adamellite

#### Profile Morphology

|    |               |   |
|----|---------------|---|
| O1 | 0 - 0.03 m    | Organic Layer; ;  |
| A1 | 0.03 - 0.15 m | Black (10YR2/1-Moist); ; Coarse sandy clay loam; Moderate grade of structure, 2-5 mm, Granular; Rough-ped fabric; Moist; Weak consistence; 10-20%, coarse gravelly, 20-60mm, subrounded tabular, reoriented, Adamellite, coarse fragments; Field pH 5.5 (Raupach); Many, very fine (0-1mm) roots; Common, fine (1-2mm) roots; Few, medium (2-5mm) roots; Abrupt, Wavy change to -   |
| A2 | 0.15 - 0.27 m | Dark brown (10YR3/3-Moist); Pale brown (10YR6/3-Dry); Biological mixing, 10YR21, 10-20% , Distinct; Coarse sandy clay loam; Moderate grade of structure, 10-20 mm, Subangular blocky; 5-10 mm, Polyhedral; Rough-ped fabric; Moist; Weak consistence; Field pH 6 (Raupach); Common, very fine (0-1mm) roots; Few, fine (1-2mm) roots; Common, medium (2-5mm) roots; Few, coarse (>5mm) roots; Clear, Wavy change to -     |
| B1 | 0.27 - 0.38 m | Brown (7.5YR4/4-Moist); ; Coarse sandy clay; Moderate grade of structure, 5-10 mm, Subangular blocky; 2-5 mm, Polyhedral; Rough-ped fabric; Moist; Weak consistence; Few cutans, <10% of ped faces or walls coated, faint; Field pH 5 (Raupach); Few, very fine (0-1mm) roots; Few, fine (1-2mm) roots; Few, medium (2-5mm) roots; Common, coarse (>5mm) roots; Gradual, Smooth change to -                               |
| B2 | 0.38 - 0.7 m  | Strong brown (7.5YR4/6-Moist); ; Coarse sandy clay; Moderate grade of structure, 10-20 mm, Angular blocky; 20-50 mm, Subangular blocky; Smooth-ped fabric; Moist; Firm consistence; Common cutans, 10-50% of ped faces or walls coated, distinct; Field pH 5 (Raupach); Few, very fine (0-1mm) roots; Few, fine (1-2mm) roots; Few, medium (2-5mm) roots; Few, coarse (>5mm) roots; Diffuse, Smooth change to -           |
| B3 | 0.7 - 1.03 m  | Strong brown (7.5YR4/6-Moist); ; Coarse sandy clay loam; Weak grade of structure, 10-20 mm, Angular blocky; Rough-ped fabric; Moist; Firm consistence; 10-20%, cobbly, 60-200mm, rounded tabular, undisturbed, Adamellite, coarse fragments; 10-20%, fine gravelly, 2-6mm, angular, Quartz, coarse fragments; Few cutans, <10% of ped faces or walls coated, faint; Field pH 4.5 (Raupach); Few, very fine (0-1mm) roots; |
| C  | 1.03 - 1.53 m | Brownish yellow (10YR6/8-Moist); ; Clayey coarse sand; Massive grade of structure; Sandy (grains prominent) fabric; Moderately moist;   |

#### Morphological Notes

B2 Fungal mats binding clods are common.

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B3                      First sign of weathered gravel. Coarse sand content increased.

**Observation Notes**

Site location: comp 42h, 8996-1,164deg, 80m from slope break on ridge. Soil is deeper than expected for site.

**Site Notes**

SEE FIELD NOTES

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**Laboratory Test Results:**

| Depth<br>m  | pH    | 1:5 EC<br>dS/m | Ca    | Exchangeable<br>Mg | Cations<br>K | Na<br>Cmol (+)/kg | Exchangeable<br>Acidity | CEC | ECEC   | ESP<br>% |
|-------------|-------|----------------|-------|--------------------|--------------|-------------------|-------------------------|-----|--------|----------|
| 0 - 0.03    |       |                |       |                    |              |                   |                         |     |        |          |
| 0.03 - 0.15 | 4.65C |                | 6.44H | 1.28               | 0.86         | 0.11              | 1.49J<br>0K             |     | 10.18E |          |
| 0.15 - 0.27 | 4.25C |                | 2.85H | 0.83               | 0.33         | 0.04              | 1.9J<br>0K              |     | 5.95E  |          |
| 0.27 - 0.38 | 4.25C |                | 2.85H | 1.36               | 0.51         | 0.05              | 1.5J<br>0K              |     | 6.27E  |          |
| 0.38 - 0.7  | 4.33C |                | 3.16H | 1.73               | 0.6          | 0.06              | 1.3J<br>0K              |     | 6.86E  |          |
| 0.7 - 1.03  | 4C    |                | 0.31H | 0.58               | 0.68         | 0.08              | 2.77J<br>0K             |     | 4.42E  |          |

| Depth       | CaCO3 | Organic C | Avail. P | Total P | Total N | Total K | Bulk Density | Particle Size |    | Analysis |           |
|-------------|-------|-----------|----------|---------|---------|---------|--------------|---------------|----|----------|-----------|
| m           | %     | %         | mg/kg    | %       | %       | %       | Mg/m3        | GV            | CS | FS       | Silt Clay |
| 0 - 0.03    |       |           |          |         |         |         |              |               |    |          |           |
| 0.03 - 0.15 |       | 4.47B     |          | 222.8B  | 0.17A   |         | 1.02         | 30.88         |    |          |           |
| 0.15 - 0.27 |       | 1.98B     |          | 140.3B  | 0.07A   |         | 1.18         | 37.75         |    |          |           |
| 0.27 - 0.38 |       | 1.18B     |          | 133.8B  | 0.05A   |         | 1.31         | 31.24         |    |          |           |
| 0.38 - 0.7  |       | 0.84B     |          | 150.1B  | 0.04A   |         |              | 27.76         |    |          |           |
| 0.7 - 1.03  |       | 0.31B     |          | 116.6B  | 0.01A   |         |              | 31.8          |    |          |           |

[illegible]

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**Laboratory Analyses Completed for this profile**

|            |   |
|------------|---|
| 15_NR      | Sum of Ex. cations + Ex. acidity - Not recorded   |
| 15E1_AL    | Exchangeable Al - by compulsive exchange, no pretreatment for soluble salts               |
| 15E1_CA    | Exchangeable bases (Ca2+,Mg2+,Na+,K+) by compulsive exchange, no pretreatment for soluble |
| 15E1_H     | Exchangeable H - by compulsive exchange, no pretreatment for soluble salts                |
| 15E1_K     | Exchangeable bases, CEC and AEC by compulsive exchange, no pretreatment for soluble salts |
| 15E1_MG    | Exchangeable bases, CEC and AEC by compulsive exchange, no pretreatment for soluble salts |
| 15E1_NA    | Exchangeable bases, CEC and AEC by compulsive exchange, no pretreatment for soluble salts |
| 2A1        | Air-dry moisture content  |
| 4B2        | pH of 1:5 soil/0.01M calcium chloride extract - following Method 4A1                      |
| 6B2        | Total organic carbon - high frequency induction furnace, volumetric                       |
| 7A2        | Total nitrogen - semimicro Kjeldahl , automated colour                                    |
| 9A3        | Total Phosphorus (ppm) - semimicro kjeldahl, automated colour                             |
| P10_GRAV   | Gravel (%)  |
| P10_S_0.48 | 0.48 micron (cumulative %) - Sedigraph  |
| P10_S_1    | 1 micron (cumulative %) - Sedigraph   |
| P10_S_1000 | 1000 micron (cumulative %) - Sedigraph  |
| P10_S_125  | 125 micron (cumulative %) - Sedigraph   |
| P10_S_15.6 | 15.6 micron (cumulative %) - Sedigraph  |
| P10_S_2    | 2 micron (cumulative %) - Sedigraph   |
| P10_S_20   | 20 micron (cumulative %) - Sedigraph  |
| P10_S_2000 | 2000 micron (cumulative %) - Sedigraph  |
| P10_S_250  | 250 micron (cumulative %) - Sedigraph   |
| P10_S_3.9  | 3.9 micron (cumulative %) - Sedigraph   |
| P10_S_31.2 | 31.2 micron (cumulative %) - Sedigraph  |
| P10_S_500  | 500 micron (cumulative %) - Sedigraph   |
| P10_S_53   | 53 micron (cumulative %) - Sedigraph  |
| P10_S_63   | 63 micron (cumulative %) - Sedigraph  |
| P10_S_7.8  | 7.8 micron (cumulative %) - Sedigraph   |
| P3A1       | Bulk density - g/cm3  |